AMENDMENTS TO THE CLAIMS

1. (Currently amended) Directional coupler (1) in coplanar waveguide technology comprising at least one first directional coupler unit (100) with a first connection (103) for feeding in or guiding out a wave, a second connection (104) for feeding in or guiding out a wave supplied directly from or to the first connection (103), a coupled connection (106) for coupling a fraction of a feeded wave at connection (103), a termination (105), a first center conductor (107) connecting the first connection (103) and the second connection (104), a second center conductor (108 connecting the coupled connection (106) and the termination (105), and ground conductors (110, 112) bordering the outside of each of the center conductors, ~~characterised~~ characterized in that

the spacing between the two center conductors (107,108) changes along the longitudinal extension of the center conductors (107, 108) over a coupler section (102).

2. (Currently amended) Directional coupler in coplanar waveguide technology according to Claim 1, ~~characterised~~ characterized in that

the spacing between the center conductors (107,108) increases exponentially in the direction from the first connection (103) and/or from the coupled connection (106) towards the second connection (104) and/or towards the termination (105).

3. (Currently amended) Directional coupler (1) in coplanar wave guide technology comprising at least one first directional coupler unit (100) with a first connection (103) for feeding in or guiding out a wave, a second connection (104) for feeding in or guiding out a wave supplied directly from or to the first connection (103), a coupled connection (106) for coupling a fraction of a feeded wave at connection (103), a termination (105), a first center conductor (107) connecting the first connection (103) and the second connection (104), a second center conductor (108) connecting the coupled connection (106) and the termination (105) and ground conductors

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CHRISTENSEN O'CONNOR JOHNSON KINDNESS PLLC
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

(110, 112) bordering the outside of each of the center conductors (107, 108), ~~characterised~~ characterized in that

the spacing in each case between a center conductor (107; 108) and an adjacent ground conductor (110; 112) changes along the longitudinal extension of the center conductor (107; 108) over a coupler section (102).

4. (Currently amended) Directional coupler in coplanar waveguide technology according to Claim 3, ~~characterised~~ characterized in that

the spacing in each case between a center conductor (107; 108) and an adjacent ground conductor (110;112) increases or decreases in a linear manner between two adjacent coupler segments originally of constant width.

5. (Currently amended) Directional coupler in coplanar waveguide technology according to Claim 4, ~~characterised~~ characterized in that

the spacing in each case between a center conductor (107; 108) and an adjacent ground conductor (110; 112) lies above a predetermined lower limit value gMIN and below a predetermined upper limit value gMAX.

6. (Currently amended) Directional coupler according to any one of Claims 3 to 5, ~~characterised~~ characterized in that

the spacing between the two center conductors (107, 108) changes along the longitudinal extension of the center conductor (107,108) over the coupler section (102).

7. (Currently amended) Directional coupler (1) in coplanar waveguide technology comprising at least one first directional coupler unit (100) with a first connection (103) for feeding in or guiding out a wave, a second connection (104) for feeding in or guiding out a wave supplied directly from or to the first connection (103), a coupled connection (106) for coupling a fraction of a feeded wave at connection (103), a termination (105), a first center conductor (107)

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

connecting the first connection (103) and the second connection (104), a second center conductor (108) connecting the coupled connection (106) and the termination (105) and ground conductors (110, 112) bordering the outside of each of the center conductors (107, 108), ~~characterised~~ characterized in that

the width of the conductor track of the two center conductors (107,108) changes along the longitudinal extension of the center conductors (107,108) over a coupler section (102).

8. (Currently amended) Directional coupler in coplanar waveguide technology according to Claim 7, ~~characterised~~ characterized in that

the width of the conductor track of the center conductors (107,108) increases continuously in the direction from the first connection (103) and/or from the coupled connection (106) towards the second connection (104) and/or the termination (105).

9. (Currently amended) Directional coupler in coplanar waveguide technology according to Claim 7 [[or 8]], ~~characterised~~ characterized in that

the spacing between the two center conductors (107; 108) changes along the longitudinal extension of the center conductors (107; 108) over the coupler section (102).

10. (Currently amended) Directional coupler in coplanar waveguide technology according to ~~any one of claims 7 to 9~~ Claim 8, characterized in that

the spacing ~~in each case between a center conductor (107; 108) and an adjacent ground conductor (110;112)~~ between the two center conductors (107; 108) changes along the longitudinal ~~axis~~ extension of the center conductors (107; 108) over the coupler section (102).

11. (Currently amended) Directional coupler in coplanar waveguide technology according ~~to any one of claims 1 to 10~~ Claim 7, ~~characterised~~ characterized in that

the termination (105) is terminated with a trapezoidal absorber (127).

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

12. (Currently amended) Directional coupler in coplanar waveguide technology according ~~to any one of claims 1 to 11~~ Claim7, ~~characterised~~ characterized in that

the second connection (104) of the first directional coupler unit (100) is connected via a center conductor (123) with two adjacent ground conductors (110, 112) to a second connection (204) of a second directional coupler unit (200).

13. (Currently amended) Directional coupler in coplanar waveguide technology according to Claim 12, ~~characterised~~ characterized in that

the first and the second directional coupler unit (100, 200) are integrated monolithically in mirror image arrangement on a common substrate (101).

14. (Currently amended) Directional coupler in coplanar waveguide technology according ~~to any one of claims 1 to 13~~ Claim 7, ~~characterised~~ characterized in that,

in the region of the narrowest spacing between the ground conductors (110,112,120(220)), the ground conductors (110,112,120(220)) are connected via air bridges (235), and/or in regions of wider spacing between the ground conductors (110,112,120(220)), the ground conductors (110,112,120(220)) are connected via bonding wires (240).

15. (Currently amended) Directional coupler in coplanar waveguide technology according ~~to any one of claims 1 to 14~~ Claim 7, ~~characterised~~ characterized in that

the air bridges (235) consist of metallic layers (236) which are separated in an isolating manner by a thin layer of air from the center conductors (207, 208, 218, 221).

16. (Currently amended) Directional coupler in coplanar waveguide technology according ~~to any one of claims 1 to 15~~ Claim 7, ~~characterised~~ characterized in that

tapers (115,117) are provided at the transitions between coaxial feed lines and the center conductors (107,108), which continuously adapt the cross-sectional geometry of the coaxial feed

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

lines to the cross-sectional geometry of the center conductors (107,108) in order to ~~minimise~~ minimize loss and reflection.

17. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 8 to 10, characterized in that

the spacing in each case between a center conductor (107; 108) and an adjacent ground conductor (110;112) changes along the longitudinal axis of the center conductors (107; 108) over the coupler section (102).

18. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 1 to 5, characterized in that

the termination (105) is terminated with a trapezoidal absorber (127).

19. (New) Directional coupler in coplanar waveguide technology according to Claim 6, characterized in that

the termination (105) is terminated with a trapezoidal absorber (127).

20. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 8 to 10, characterized in that

the termination (105) is terminated with a trapezoidal absorber (127).

21. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 1 to 5, characterized in that

the second connection (104) of the first directional coupler unit (100) is connected via a center conductor (123) with two adjacent ground conductors (110, 112) to a second connection (204) of a second directional coupler unit (200).

22. (New) Directional coupler in coplanar waveguide technology according to Claim 6, characterized in that

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

the second connection (104) of the first directional coupler unit (100) is connected via a center conductor (123) with two adjacent ground conductors (110, 112) to a second connection (204) of a second directional coupler unit (200).

23. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 8 to 11, characterized in that

the second connection (104) of the first directional coupler unit (100) is connected via a center conductor (123) with two adjacent ground conductors (110, 112) to a second connection (204) of a second directional coupler unit (200).

24. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 1 to 5, characterized in that

in the region of the narrowest spacing between the ground conductors (110,112,120(220)), the ground conductors (110,112,120(220)) are connected via air bridges (235), and/or in regions of wider spacing between the ground conductors (110,112,120(220)), the ground conductors (110,112,120(220)) are connected via bonding wires (240).

25. (New) Directional coupler in coplanar waveguide technology according to Claim 6, characterized in that

in the region of the narrowest spacing between the ground conductors (110,112,120(220)), the ground conductors (110,112,120(220)) are connected via air bridges (235), and/or in regions of wider spacing between the ground conductors (110,112,120(220)), the ground conductors (110,112,120(220)) are connected via bonding wires (240).

26. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 8 to 13, characterized in that

in the region of the narrowest spacing between the ground conductors (110,112,120(220)), the ground conductors (110,112,120(220)) are connected via air bridges

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

(235), and/or in regions of wider spacing between the ground conductors (110,112,120(220)), the ground conductors (110,112,120(220)) are connected via bonding wires (240).

27. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 1 to 5, characterized in that

the air bridges (235) consist of metallic layers (236) which are separated in an isolating manner by a thin layer of air from the center conductors (207, 208, 218, 221).

28. (New) Directional coupler in coplanar waveguide technology according to Claim 6, characterized in that

the air bridges (235) consist of metallic layers (236) which are separated in an isolating manner by a thin layer of air from the center conductors (207, 208, 218, 221).

29. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 8 to 14, characterized in that

the air bridges (235) consist of metallic layers (236) which are separated in an isolating manner by a thin layer of air from the center conductors (207, 208, 218, 221).

30. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 1 to 5, characterized in that

tapers (115,117) are provided at the transitions between coaxial feed lines and the center conductors (107,108), which continuously adapt the cross-sectional geometry of the coaxial feed lines to the cross-sectional geometry of the center conductors (107,108) in order to minimize loss and reflection.

31. (New) Directional coupler in coplanar waveguide technology according to Claim 6, characterized in that

tapers (115,117) are provided at the transitions between coaxial feed lines and the center conductors (107,108), which continuously adapt the cross-sectional geometry of the coaxial feed

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

lines to the cross-sectional geometry of the center conductors (107,108) in order to minimize loss and reflection.

32. (New) Directional coupler in coplanar waveguide technology according to any one of Claims 8 to 15, characterized in that

tapers (115,117) are provided at the transitions between coaxial feed lines and the center conductors (107,108), which continuously adapt the cross-sectional geometry of the coaxial feed lines to the cross-sectional geometry of the center conductors (107,108) in order to minimize loss and reflection.

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CHRISTENSEN O'CONNOR JOHNSON KINDNESS PLLC
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100